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CLAIM AMENDMENTS

Please amend the claims as described below. In accordance with 37 CFR §1.121, a complete listing of all claims in the application is provided below. The status of each claim is indicated in the parenthetical expression adjacent to the corresponding claim number.

1. **(Currently Amended)** A glucose sensor ~~sensing device~~ for implantation within subcutaneous tissue of an animal body, the glucose sensor ~~sensing device~~ comprising:

a first chamber containing (i) first magnetic particles and (ii) a first hydrocolloid solution having a viscosity which is dependent on and/or a function of the concentration of glucose in the first chamber, wherein the first magnetic particles are dispersed in the first hydrocolloid solution and wherein, when the first chamber is implanted in subcutaneous tissue of the animal body, glucose ~~with~~in the animal body may enter and exit the first chamber; and

a reference chamber containing (i) second magnetic particles and (ii) a reference solution wherein the second magnetic particles are dispersed in the reference solution, and wherein, when the reference chamber is implanted in subcutaneous tissue of the animal body, glucose in the animal body does not enter the reference chamber.

2. **(Currently Amended)** The glucose sensor ~~sensing device~~ of claim 1 wherein the first hydrocolloid solution is a ConA-dextran hydrocolloid.

3. **(Currently Amended)** The glucose sensor ~~sensing device~~ of claim 2 wherein first hydrocolloid solution includes a combination of any glucose specific lectin, other

glucose-specific binding protein, a glucose-containing glycoconjugate, or mannose-containing glycoconjugate.

4. **(Currently Amended)** The glucose sensor ~~sensing device~~ of claim 1 wherein the reference solution is a second hydrocolloid solution.

5. **(Currently Amended)** The glucose sensor ~~sensing device~~ of claim 4 wherein the second hydrocolloid solution is a ConA-dextran hydrocolloid.

6. **(Currently Amended)** The glucose sensor ~~sensing device~~ of claim 5 wherein second hydrocolloid solution includes a combination of any glucose specific lectin, other glucose-specific binding protein, a glucose-containing glycoconjugate, or mannose-containing glycoconjugate.

7. **(Currently Amended)** The glucose sensor ~~sensing device~~ of claim 1 wherein the first and second magnetic particles are amine-terminated particles.

8. **(Currently Amended)** The glucose sensor ~~sensing device~~ of claim 7 ~~1~~ wherein the amine-terminated particles having a mean diameter of about 1 μm.

9. **(Currently Amended)** The glucose sensor ~~sensing device~~ of claim 1 wherein the first and second magnetic particles include at least one rare earth element.

10. **(Currently Amended)** The glucose sensor ~~sensing device~~ of claim 9 wherein the at least one rare earth element is selected from the group consisting of neodymium and samarium.

11. **(Currently Amended)** The glucose sensor ~~sensing device~~ of claim 1 wherein the first and second magnetic particles are selected from the group consisting of neodymium, samarium, neodymium-iron-boron, samarium-cobalt, iron, permalloy, superpermalloy, cobalt, nickel, steel, and alnico.

12. **(Currently Amended)** The glucose sensor ~~sensing device~~ of claim 1 wherein the first and second magnetic particles include a ferromagnetic material.

13. **(Currently Amended)** The glucose sensor ~~sensing device~~ of claim 1 wherein the first chamber includes a semipermeable membrane ~~viscosity of the first hydrocolloid solution changes in response to the presence of glucose~~.

14. **(Currently Amended)** The glucose sensor ~~sensing device~~ of claim 1 wherein the first chamber includes a semipermeable membrane ~~comprised of~~ comprising regenerated cellulose, polyurethane, polysulfone or other material that is capable of unrestricted glucose in and efflux.

15. **(Currently Amended)** The glucose sensor ~~sensing device~~ of claim 1 wherein the first chamber is a dialysis hollow fiber having semipermeable membrane properties.

16. **(Currently Amended)** A glucose sensing system ~~sensing device for implantation within subcutaneous tissue of an animal body, the glucose sensing device~~ comprising:

a glucose sensor which is implanted in subcutaneous tissue of an animal body, the glucose sensor including:

a first chamber containing (i) first magnetic particles and (ii) a hydrocolloid solution having a viscosity which is dependent on and/or a function of the concentration of glucose in the first chamber, wherein the first magnetic particles are dispersed in the hydrocolloid solution and wherein, when the first chamber is implanted in subcutaneous tissue of an animal body, glucose ~~with~~in the animal body may enter and exit the first chamber; and

a reference chamber containing (i) second magnetic particles and (ii) a reference solution wherein the second magnetic particles are dispersed in the reference solution; and

instrumentation to determine data which is representative of a change in viscosity of the hydrocolloid solution in the first chamber.

17. **(Currently Amended)** The glucose sensing system ~~device~~ of claim 16 wherein the hydrocolloid solution includes a known viscosity.

18. **(Currently Amended)** The glucose sensing system ~~device~~ of claim 16 wherein the reference solution includes a constant viscosity.

19. **(Currently Amended)** The glucose sensing system ~~device~~ of claim 16 wherein the reference solution includes a known viscosity.

20. **(Currently Amended)** The glucose sensing system ~~device~~ of claim 16 wherein the reference solution includes oil or alcohol compounds.

21. **(Currently Amended)** The glucose sensing system ~~device~~ of claim 16 wherein the hydrocolloid solution is a ConA-dextran hydrocolloid.

22. **(Currently Amended)** The glucose sensing system ~~device~~ of claim 16 wherein the hydrocolloid solution includes any glucose specific lectin, other glucose-specific binding protein, a glucose- containing glycoconjugate, or mannose-containing glycoconjugate.

23. **(Currently Amended)** The glucose sensing system ~~device~~ of claim 16 wherein the first magnetic particles are amine-terminated particles.

24. **(Currently Amended)** The glucose sensing system ~~device~~ of claim 23 ~~16~~ wherein the amine-terminated particles having a mean diameter of about 1 μm.

25. **(Currently Amended)** The glucose sensing system ~~device~~ of claim 16 wherein the first magnetic particles include at least one rare earth element.

26. **(Currently Amended)** The glucose sensing system ~~device~~ of claim 16 wherein the first magnetic particles include a ferromagnetic material.

27. **(Currently Amended)** The glucose sensing system ~~device~~ of claim 16 wherein the first chamber includes a semipermeable membrane ~~viscosity of the first hydrocolloid solution changes in response to the presence of glucose~~.

28. **(Currently Amended)** The glucose sensing system ~~device~~ of claim 16 wherein the first chamber includes a semipermeable membrane comprising ~~comprised of~~ regenerated cellulose, polyurethane, polysulfone or other material that is capable of unrestricted glucose in and efflux.

29. **(Currently Amended)** The glucose sensing system ~~device~~ of claim 16 wherein the first chamber is a dialysis hollow fiber having semipermeable membrane properties.

30. **(Currently Amended)** A glucose sensor ~~sensing device~~ for measuring the concentration of glucose in a fluid medium, the glucose sensing device comprising:

a first chamber containing (i) first magnetic particles and (ii) a hydrocolloid solution having a viscosity which is dependent on and/or a function of the concentration of glucose in the first chamber, wherein the first magnetic particles are dispersed in the hydrocolloid solution and wherein, when the first chamber is in fluidic contact with the fluid medium, glucose from the fluid medium may enter and exit the first chamber; and a reference chamber containing (i) second magnetic particles and (ii) a reference solution wherein the second magnetic particles are dispersed in the reference solution, and wherein, when the reference chamber is in fluidic contact with the fluid medium, glucose from the fluid medium does not enter the reference chamber.

31. **(Currently Amended)** The glucose sensor ~~sensing device~~ of claim 30 wherein the hydrocolloid solution includes a known viscosity.

32. **(Currently Amended)** The glucose sensor ~~sensing device~~ of claim 30 wherein the reference solution includes a constant viscosity.

33. **(Currently Amended)** The glucose sensor ~~sensing device~~ of claim 30 wherein the reference solution includes a known viscosity.

34. **(Currently Amended)** The glucose sensor ~~sensing device~~ of claim 30 wherein the reference solution includes oil or alcohol compounds.

35. **(Currently Amended)** The glucose sensor ~~sensing device~~ of claim 30 wherein the hydrocolloid solution is a ConA-dextran hydrocolloid.

36. **(Currently Amended)** The glucose sensor ~~sensing device~~ of claim 30 wherein the hydrocolloid solution includes any glucose specific lectin, other glucose-

specific binding protein, a glucose- containing glycoconjugate, or mannose-containing glycoconjugate.

37. **(Currently Amended)** The glucose sensor ~~sensing device~~ of claim 30 wherein the first magnetic particles are amine-terminated particles.

38. **(Currently Amended)** The glucose sensor ~~sensing device~~ of claim 37 ~~30~~ wherein the amine-terminated particles having a mean diameter of about 1 μm.

39. **(Currently Amended)** The glucose sensor ~~sensing device~~ of claim 30 wherein the first magnetic particles include at least one rare earth element.

40. **(Currently Amended)** The glucose sensor ~~sensing device~~ of claim 30 wherein the first magnetic particles include a ferromagnetic material.

41. **(Currently Amended)** The glucose sensor ~~sensing device~~ of claim 30 wherein the first chamber includes a semipermeable membrane ~~viscosity of the first hydrocolloid solution changes in response to the presence of glucose~~.

42. **(Currently Amended)** The glucose sensor ~~sensing device~~ of claim 30 wherein the first and second magnetic particles include at least one rare earth element.

43. **(Currently Amended)** The glucose sensor ~~sensing device~~ of claim 42 wherein the at least one rare earth element is selected from the group consisting of neodymium and samarium.

44. **(Currently Amended)** The glucose sensor ~~sensing device~~ of claim 30 wherein the first and second magnetic particles are selected from the group consisting of neodymium, samarium, neodymium-iron-boron, samarium-cobalt, iron, permalloy, superpermalloy, cobalt, nickel, steel, and alnico.

45. **(Currently Amended)** The glucose sensor ~~sensing device~~ of claim 30 wherein the first and second magnetic particles include a ferromagnetic material.

46. **(Currently Amended)** The glucose sensor ~~sensing device~~ of claim 30 wherein the viscosity of the first hydrocolloid solution changes in response to the presence of glucose.

47. **(Currently Amended)** The glucose sensor ~~sensing device~~ of claim 30 wherein the first chamber includes a semipermeable membrane comprising ~~comprised of~~ regenerated cellulose, polyurethane, polysulfone, or other material that is capable of unrestricted glucose in and efflux.

48. **(Currently Amended)** The glucose sensor ~~sensing device~~ of claim 30 wherein the first chamber is a dialysis hollow fiber having semipermeable membrane properties.

49. **(Currently Amended)** A glucose sensor ~~sensing device~~ for measuring the concentration of glucose in a fluid, the glucose sensing device comprising:

a first chamber;

a first plurality of magnetic particles disposed in the first chamber;

a first solution disposed in the first chamber, wherein the first solution includes a viscosity which is dependent on and/or a function of the concentration of glucose in the first chamber; and

wherein the first plurality of magnetic particles are dispersed in the first solution and wherein, when the first chamber is in fluidic contact with the fluid, glucose in the fluid may enter and exit the first chamber.

50. **(Currently Amended)** The glucose sensor ~~sensing device~~ of claim 49 wherein the first solution includes a hydrocolloid.

51. **(Currently Amended)** The glucose sensor ~~sensing device~~ of claim 50 wherein the hydrocolloid is a solution of glucose-binding molecules and macromolecules.

52. **(Currently Amended)** The glucose sensor ~~sensing device~~ of claim 51 wherein the macromolecules are glucose-terminated or mannose-terminated.

53. **(Currently Amended)** The glucose sensor ~~sensing device~~ of claim 51 wherein the glucose binding molecules are Concanavalin A and the macromolecules are dextran.

54. **(Currently Amended)** The glucose sensor ~~sensing device~~ of claim 51 wherein the device further includes a semipermeable membrane wherein the first chamber is enclosed by the semipermeable membrane.

55. **(Currently Amended)** The glucose sensor ~~sensing device~~ of claim 54 wherein the semipermeable membrane is a hollow cellulose acetate dialysis fiber.

56. **(Currently Amended)** The glucose sensor ~~sensing device~~ of claim 51 further including:

a second chamber, wherein the second chamber includes a second solution and a second plurality of magnetic particles; and

wherein the second plurality of magnetic particles are dispersed in the second solution.

57. **(Currently Amended)** The glucose sensor ~~sensing device~~ of claim 56 wherein second solution is a hydrocolloid, an oil, or an alcohol.

58. **(Currently Amended)** The glucose sensor ~~sensing device~~ of claim 56 further including an impermeable membrane wherein the second chamber is enclosed by the impermeable membrane.

59. **(Currently Amended)** The glucose sensor ~~sensing device~~ of claim 49 wherein the first plurality of magnetic particles are capable of moving within the first solution.

60. **(NEW)** The glucose sensor of claim 1 wherein the hydrocolloid solution includes a known viscosity and the reference solution includes a constant viscosity.

61. **(NEW)** The glucose sensor of claim 1 wherein the hydrocolloid solution includes a known viscosity and the reference solution includes a known viscosity.

62. **(NEW)** The glucose sensor of claim 1 wherein the reference solution includes oil or alcohol compounds.

63. **(NEW)** The glucose sensor of claim 1 wherein the first magnetic particles are amine-terminated particles.

64. **(NEW)** The glucose sensor of claim 63 wherein the amine-terminated particles having a mean diameter of about 1 μm.

65. **(NEW)** The glucose sensor of claim 1 wherein the first magnetic particles include at least one rare earth element.

66. **(NEW)** The glucose sensor of claim 1 wherein the first magnetic particles include a ferromagnetic material.